

CONTAINER SUPPORT DEVICE, SYSTEM, AND METHOD

BACKGROUND OF THE INVENTION

1. Field of Invention

[0001] This invention relates to devices, systems and methods for supporting containers.

2. Description of Related Art

[0002] Briefcases, computer carrying cases, instrument cases, carrying cases, shoulder bags, backpacks, catalog cases, suitcases, and other containers are typically provided with one or more handles and/or shoulders straps for transporting the containers on one's person. When one of the above-described containers is carried by utilizing the shoulder strap(s), the entire weight of the container and its contents is placed upon the carrier's shoulder, or shoulders. Pressure caused by the above-described conventional shoulder strap(s) can cause pain, fatigue, and injury to a user.

[0003] Some conventional backpacks designed for camping and long distance trekking have attempted to alleviate pressure on the shoulders by including a waist strap that transfers a portion of the load from a person's shoulders to the person's hips or waist. However, this conventional waist strap design has proven unacceptable for the businessperson and/or leisure traveler who has found backpacks with such waist straps complicated, cumbersome, and unsuitable for the business and/or travel environment.

[0004] More recently, in the electronics field, businesspeople and leisure travelers have become accustomed to clipping items to their clothing and clothing accessories in order to transport them on their person. Various items that businesspeople and travelers commonly clip to, for example, their waistband or belt, include cell phones, personal digital assistants, pagers, gaming devices, and small computers.

SUMMARY OF THE DISCLOSURE

[0005] Various exemplary embodiments of container support systems according to this invention include a small device that allows a person to discreetly distribute the weight of a container between the person's shoulder(s) (via one or more shoulder straps) and another part of the person's body (via the device and/or the person's clothing or clothing accessories).

[0006] Various exemplary embodiments of a container support device according to this invention provide a support device that includes a platform-like portion on which a container may be placed. The device is usable to interact with an article of clothing

(including clothing accessories). When the device interacts with an article of clothing, the device helps distribute the weight of the container to the article of clothing, thereby transferring weight of the container to a person's body.

[0007] Furthermore, various exemplary embodiments of a container support system according to this invention include a container, one or more shoulder straps, and a device. The device transfers at least a portion of the container's weight to another part of the person's body by joining the container with that person's clothing, such as, for example, a jacket or parka pocket, a jacket or parka belt, a jacket or parka loop, a pants waistband, a pants pocket, a belt, or a belt loop. For the purpose of this disclosure, the term joining at least encompasses combining, uniting, linking, connecting, relating, and associating. When the device joins the container with the person's clothing at least part of the container's weight is transferred through the device, to the person's clothing, and to the person. Thereby, the weight of the container transferred to the person by the device is no longer supported by the person's shoulder(s).

[0008] Various exemplary embodiments of a container support method according to this invention include supporting a portion of a container's weight by one or more shoulder straps and supporting another portion of the container's weight by a device, wherein the device is usable to link the container to an article of clothing.

[0009] According to various exemplary embodiments of the devices, systems, and methods according to this invention, a person can carry relatively heavy containers, such as, for example, containers holding books, files, computers, instruments, and clothing, without the level of discomfort associated with conventional shoulder strap(s).

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] Various exemplary embodiments of systems and methods according to this invention will be described in detail, with reference to the following figures, wherein:

[0011] Fig. 1 shows a first exemplary embodiment of a device for supporting a container according to this invention;

[0012] Fig. 2 shows a first exemplary embodiment of a system and method for supporting a container according to this invention;

[0013] Fig. 3 shows a second exemplary embodiment of a device for use in a system for supporting a container according to this invention;

[0014] Fig. 4 shows an example of how the second exemplary embodiment of a device may interact with a container;

[0015] Fig. 5 shows a second exemplary embodiment of a system and method for supporting a container according to this invention; and

[0016] Fig. 6 shows an exemplary embodiment of a receptacle for use with various exemplary embodiments of the device according to this invention.

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS

[0017] Figs. 1-2 show a first exemplary embodiment of a device 100 for supporting a container according to this invention. In this embodiment, the device 100 is comprised of a small, strong, lightweight support which is comfortably worn by a user by joining a first part 103 of the device 100, with a user's article of clothing 113. The first part 103 could be for example a hook, a clasp, or any other structure suitable for joining the device 100 with a user's article of clothing 113. The device provides a substantially flat platform-like second part 105 on which a container 111, such as a briefcase or catalog case, may be set. As such, the platform-like second part 105 may transfer all or some of the weight of container 111 to the user's article of clothing 113. Because the user is wearing the article of clothing 113, a portion of the weight of container 111 transferred to the user's article of clothing 113 will be borne by a portion of the user's body through the article of clothing 113. When used in conjunction with the shoulder strap(s) 109 of the container 111, the device 100 effectively reduces the portion of the weight of container 111 borne by the user's shoulders.

[0018] In various exemplary embodiments of the above-described device 100, the device 100 may include a pad 107 that cushions a primary contact point of the device 100 created by a downward force on the second part 105, when a container 111 is placed on the second part 105.

[0019] Fig. 2 shows a first exemplary embodiment of a system 2000 and method, for supporting a container according to this invention that incorporates device 100. As shown in Fig. 2, the system includes device 100, container 111, and shoulder strap(s) 109. As described above, the device 100 interacts with the user's article of clothing 113 by first part 103. Container 111 is placed onto the platform-like second part 105 of the device 100. Shoulder strap(s) 109, attached to the container 111, secure the container to one or more of the user's shoulders. Part of the weight of the container 111 is transferred through the shoulder strap(s) 109 to the user's shoulders. The remaining weight of the container 111 is supported by the device 100. A first component of the weight of the container 111 supported by the device 100 is transferred to the user's article of clothing 113 through first part 103. As such, the first component of the weight of the container 111 supported by device 100 is borne

by a portion of the user's body through the article of clothing 113. A second component of the weight of the container 111 supported by the device 100 is transferred directly to the user's body through pad 107.

[0020] In various exemplary embodiments, the device 100 has a relatively small width W (e.g., 0.5 - 1 inches) such that a person may inconspicuously support a container 111 and easily store and/or transport the device 100 when not in use. However, it should be appreciated that the dimensions of device 100 may be chosen depending on a number of factors including, for example, manufacture costs, the amount of support desired, ease of transport, ease of storage, and/or compatibility with a specific container and/or clothing type.

[0021] As shown in Fig. 2, one exemplary embodiment of a method of supporting a container according to this invention comprises supporting at least a portion of the weight of container 111 on one or more shoulder straps 109 attached to container 111 and transferring at least a portion of the weight of container 111 to a user and user's article of clothing 113 by way of device 100. According to this embodiment of a method, the part of the weight of container 111 transferred to the user's article of clothing 113 is borne by a portion of the user's body through the article of clothing 113, thereby alleviating pressure associated with conventional shoulder straps.

[0022] It should be appreciated that in various other exemplary embodiments of the device 100 and system 2000 for supporting a container according to this invention, the first part 103 may curve or bend in an opposite direction than that shown in Figs. 1 and 2. In this case, the device could be inserted and hooked on the inside of a user's article of clothing, such as, for example, a belt. Furthermore, in various other exemplary embodiments of the device 100 and system 2000 for supporting a container according to this invention, the first part 103 could constitute a complete loop. In such embodiments, the article of clothing could be inserted through the first part 103.

[0023] It should be appreciated that in various exemplary embodiments of the device 100 and system 2000 for supporting a container according to this invention, the device 100 may be permanently fixed to the user's article of clothing 113. In such embodiments, there would be no need for first part 103. Rather, the device 100 would be permanently fixed by, for example, stitching, glue, or rivets to an article of clothing 113, such as a belt. As such, although the device 100 would be relatively larger because the article of clothing 113 is part of the device, and possibly more cumbersome to transport when not in use, there would be

little possibility that the device 100 would disconnect from the article of clothing 113 through normal use.

[0024] Furthermore, it should be appreciated that in various exemplary embodiments of the device 100 and system 2000 for supporting a container according to this invention, the device 100 may be permanently fixed to the container 111. In such embodiments, second part 105 could be fixed to the container by, for example, stitching, glue, and/or rivets. Additionally, the second part 105 could be integrally formed into the container 111.

[0025] Figs. 3-5 show a second exemplary embodiment of a device 200 for use in a system 3000 for supporting a container 111 according to this invention. In this embodiment, the device 200 is comprised of a small, strong, lightweight support which may be comfortably worn by a user by joining the first part 203 of the device 200 with a user's article of clothing 113, such as, for example, a jacket or parka pocket, a jacket or parka belt, a jacket or parka loop, a belt, a belt loop, a pants waist band, or a pants pocket. The first part 203 could be for example a hook, a clasp, or any other structure suitable for connecting the device 200 to a user's article of clothing 113. In contrast to the device 100 of the first embodiment, the device 200 of the second embodiment provides an upturned hook-like second part 205 with which a container 111 may be joined to the device.

[0026] In various exemplary embodiments, the device 200 has a relatively small width W (e.g., 0.5 - 1 inches) such that a person may inconspicuously support a container 111 and easily store and/or transport the device 200 when not in use. However, it should be appreciated that the dimensions of device 200 may be chosen depending on a number of factors including, for example, manufacture costs, the amount of support desired, ease of transport, ease of storage, and/or compatibility with a specific container and/or clothing type.

[0027] Fig. 4 shows an example of how the second exemplary embodiment of a device 200 interacts with a container. As shown in Fig. 4, the device 200 may be joined to the container 111 by inserting second part 205 into a connecting portion 207 of the container, such as, for example, an opening, slit, pocket, or handle. It should be appreciated that the connecting portion 207 may be a preexisting portion of the container 111 (e.g., a handle), a portion of the container 111 specifically designed for use with the device 200, or a portion added to the container 111, for example, by the user. A connecting portion 207 added by the user may be permanent or removable (e.g., comprises a strap or other affixable device that is secured to the container). When the connecting portion 207 of the container 111 interacts

with the second part 205 and first part 203 interacts with a user's article of clothing 113, at least part of the weight of container 111 is borne by the device 200 and transferred to the user's article of clothing 113 through first part 203. As such, the part of the weight of container 111 transferred to the user's article of clothing 113 is borne by a portion of the user's body through the article of clothing 113. When used in conjunction with shoulder strap(s) 109 of the container 111, the device 200 effectively reduces the portion of the container's 111 weight borne by the user's shoulders.

[0028] Fig. 5 shows a second exemplary embodiment of a system 3000 and method for supporting a container 111 according to this invention that incorporates device 200. As shown in Fig. 5, the system includes device 200, container 111, and shoulder strap(s) 109. As described-above, the device 200 is joined to the connecting portion 207 on the container 111 by the hook-like second part 205. Then, the first part 203 of the device 200 interacts with the user's article of clothing 113. Because the second part 205 of the device 200 is joined to the connecting portion 207, at least part of the weight of the container 111 is borne by the device 200 and transferred to the user's article of clothing 113 through first part 203. As such, the part of the weight of the container 111 transferred to the user's article of clothing 113 is borne by a portion of the user's body through the article of clothing 113.

[0029] Therefore, as shown in Fig. 5, an exemplary embodiment of a method of supporting a container according to this invention comprises supporting at least a portion of a weight of container 111 through one or more shoulder straps 109, attached to container 111, and transferring at least a portion of the weight of container 111 to a user's article of clothing through device 200. According to this embodiment of a method, the part of the weight of container 111 transferred to the user's article of clothing 113 is borne by a portion of the user's body through the article of clothing 113, thereby alleviating pressure associated with conventional shoulder straps.

[0030] Again, it should be appreciated that in various exemplary embodiments of the device 200 and system 3000 for supporting a container 111 according this invention, the device 200 may be permanently fixed to the user's article of clothing 113. In such embodiments, there would be no need for first part 203. Rather, the device 200 would be permanently fixed by, for example, stitching, glue, or rivets to the article of clothing 113. As such, although the device 200 would be relatively larger because the article of clothing 113 is part of the device, and possibly more cumbersome to transport, there would be little

possibility that the device 200 would disconnect from the user's article of clothing 113 through normal use.

[0031] Furthermore, it should be appreciated that in various exemplary embodiments of the device 200 and system 3000 for supporting a container according to this invention, the device 200 may be permanently fixed to the container 111. In such embodiments, second part 205 could be fixed to the container by, for example, stitching, glue, and/or rivets. Additionally, the second part 205 could be integrally formed into the container 111.

[0032] It should also be appreciated that in various exemplary embodiments of the systems and methods for supporting a container according to this invention the first part 103 need not interact directly with the user's article of clothing 113, but could interact with a receptacle 600 joined to the user's clothing that is specifically designed to interact with first part 103. Fig. 6 shows an exemplary embodiment of a receptacle 600 for use with various exemplary embodiments of the device according to this invention. For instance, as shown in Fig. 6, the receptacle 600 may be a small inconspicuous receiving part 610 fixed to or part of the a user's article of clothing 113, such as a belt. The receiving part 610 could be, for example, a loop or a pocket configured to receive first part 103, 203. The receiving part 610 may be fixed to the article of clothing by, for example, stitching, glue, or rivets. Furthermore, the receiving part could be one or more slits formed in the article of clothing and configured to receive first part 103, 203. The device 100, 200 could interact with the receptacle 600, which is secured to or part of the article of clothing, such that there would be little possibility that the device 100, 200 would disconnect from the article of clothing 113 through normal use.

[0033] Finally, it should be appreciated that in the above-described exemplary embodiments of a device for supporting a container, the device may be made from any combination of durable materials including, for example, one or more of plastic, metal, carbon-fiber, fiberglass, cotton, nylon, rubber, wood, leather, and/or other materials.

[0034] According to the various exemplary embodiments of a device, system, and method for supporting a container according to this invention, a user may discreetly distribute the weight of a container between the user's shoulders and other body parts. This allows the user to alleviate pressure caused by using conventional shoulder strap(s) and avoid related pain, fatigue, and injury, while maintaining the convenience of a traditionally fashionable and acceptable container.

[0035] While the invention has been described in conjunction with exemplary embodiments, these embodiments should be viewed as illustrative, not limiting. Various modifications, substitutes, or the like are possible within the spirit and scope of the invention.